

## (12) United States Patent Pacifico et al.

US 6,251,478 B1 (10) Patent No.: Jun. 26, 2001 (45) Date of Patent:

(54)	SENSITI	VE SUBSTANCE ENCAPSULATION	4,532,145 7/1985 Saleeb et al 4,576,737 3/1986 Johnson .	
(75)	Inventors:	Carl J. Pacifico, West Milford, NJ (US); Wen-Hsin Wu, Middletown; Marta Fraley, Parksville, both of NY (US)	4,576,826 3/1986 Liu et al	
(73)	Assignee:	Balchem Corporation, Slate Hill, NY (US)	5,399,368 3/1995 Garwood et al 5,460,756 10/1995 Redding, Jr . 5,496,574 3/1996 Rushmore et al 5,506,353 4/1996 Subramaniam .	
(*)	Notice:	Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	5,558,889 9/1996 Rossi . 5,580,593 12/1996 Liu et al 5,601,865 2/1997 Fulger et al 5,603,971 2/1997 Porzio et al	
(21)	Appl. No.:	: 09/469,368	5,607,708 3/1997 Fraser et al 5,705,207 1/1998 Cook et al	
(22)	Filed:	Dec. 22, 1999	5,756,136 5/1998 Black et al 5,792,505 8/1998 Fulger et al	
(51)	Int. Cl. <sup>7</sup> .	B01J 13/02; A61K 9/16; B65B 1/04	5,874,102 2/1999 LaJoie et al  * cited by examiner	
(52)	424/1.73; 424/451; 424/463; 424/490; 424/491; 424/493; 424/496; 426/89; 426/96; 426/98; 426/100; 426/235 58) Field of Search		Primary Examiner—Samuel A. Acquah (74) Attorney, Agent, or Firm—Banner & Witcoff, Ltd. (57) ABSTRACT	
(58)			A process for stabilizing a sensitive substance; (a) plating a sensitive substance onto a solid carrier under a controlled atmosphere to reduce loss of the sensitive substance; (b) encapsulating the plated material under controlled atmosphere and airflow to reduce volatilization during the process and stabilize the sensitive substance.	
(56)				
3	.857,964 1	12/1974 Yolles . 11/1980 Sair et al	20 Claims, No Drawings	